REMARKS

The office action mailed March 21, 2006 has been carefully considered and these remarks are responsive thereto. Prior to entry of the amendments herein, claims 1-44 are pending and stand rejected. Applicants herein amend claims 1, 7, 8, 11-13, 17, 23, 29, 30, 33-35 and 39 and cancel claims 6 and 28. No new matter has been added.

Applicants amend the specification to supply a serial number for a U.S. Patent application and to correct an obvious grammatical error.

The office action rejected independent claim 1 and claims 5, 6 and 8-12 depending therefrom under 35 U.S.C. § 102(b) based on U.S. Patent 5,675,329 (Barker et al., hereinafter "Barker"). Barker fails to teach all features of claim 1, which Applicants herein amend to include the features of claim 6. In particular, claim 1 recites a step of automatically generating, at a repeat rate based on key force data for a key held pressed by a user, a third type keyboard data message indicating the held key has been pressed (emphasis added). The office action asserts the following with regard to this feature at pages 3-4:

> As for claims 6, 8, 28, 30, Barker teaches of automatically generating, at a repeat rate based on key force data for a key held pressed by a user, a third type keyboard data message (180) indicating the held key has been pressed {claims 6, 28} and that the method of claim 6, wherein the automatically generating a third type keyboard data message comprises mapping a repeat rate to the key force data for the held key {claims 8, 30} in Fig. 2 and in column 4, lines 112-22 [sic]. One can see from the figure that the diagram cycles through, hence has a repeated rate.

Notably, the office action relies on the flow chart of Barker figure 2, reproduced below for convenience:

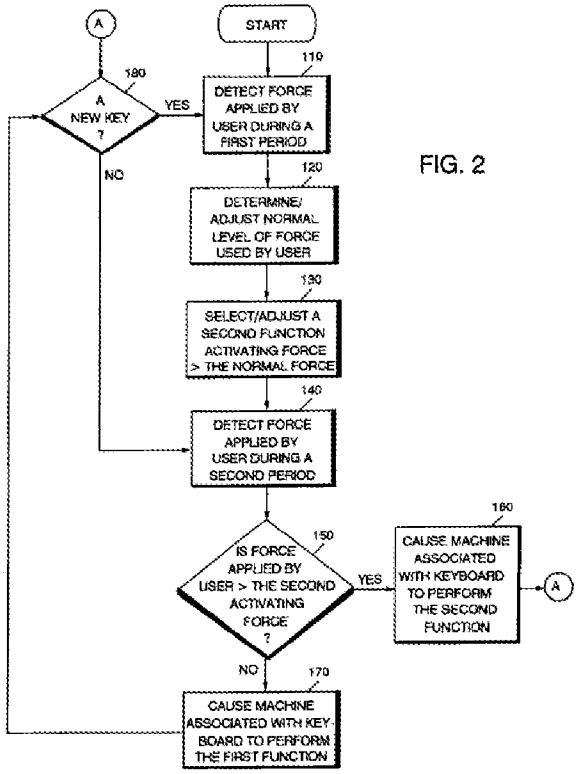

FIG. 2

The office action appears to argue that loops through this flow chart for a key that has already been pressed correspond to the repeat rate that is now recited in claim 1. Even if this is true, however, the office action does not explain how the rate of such loops through the flow chart algorithm, for a key held pressed by a user, is based on key force data for that key that is being held pressed. In other words, the office action does not explain how the algorithm would go from block 160 (or block 170) to block 180 at a faster or slower rate based on how much force is being applied to a key. Neither Barker figure 2 nor the portion of the Barker specification cited by the office action provide any hint of such a feature. Barker col. 4, lines 17-22 merely state that:

> If a new key has not been pressed, i.e., a key that has already been pressed has been pressed again, the process returns to step 140 to repeat the process of determining whether a force greater than the second actuating force has been applied. In this manner, steps 110, 120, 130, 140, and 150 and 160 or 170 may be repeated for each key of the keyboard 11.

Neither the above passage nor any other part of Barker suggests that the rate at which steps in figure 2 are repeated is in any way affected by key force data for a key held pressed. For example, Barker does not suggest that a key held pressed with less than a "normal" force causes the algorithm to repeat at a rate different from the rate at which the algorithm would repeat for a key held pressed with "> the second activating force."

Because Barker fails to teach all features of claim 1, claim 1 is allowable. Claims 5 and 8-12 depend from claim 1 and are allowable for the same reason as claim 1, and further in view of additional features recited therein. For example, claim 5 recites that receiving keyboard data sets comprises receiving a data set having key identification data and key force data for multiple keys. The office action appears to assert that this taught by Barker figure 2 and by Barker "column 3, lines 50-20." Office action at page 3. However, Barker does not teach receiving a data set with key identification and key force data for multiple keys. Instead, Barker teaches that key data is received for one key at a time.

Claim 11 recites a transfer function that comprises an initial group of sub-ranges mapped to gradually increasing repeat rate values followed by a group of sub-ranges mapped to sharply increasing repeat rate values. There is no mention whatsoever in Barker of such a transfer function. The office action asserts at page 4 that

> As for claims 11, 33, Barker teaches that the transfer function comprises an initial group of sub-ranges mapped to a gradually increasing repeat rate values followed by a group of sub-ranges mapped to a sharply increasing repeat rate values in column 3, lines 1-20. The force that the user exerts in pressing the buttons gradually increases in order to reach the second function of that particular button.

Aside from the fact that the cited portion of Barker says nothing with regard to a user-exerted button force "gradually" increasing, the office action fails to address all features of claim 11. Specifically, claim 11 requires that there be an initial group of sub-ranges mapped to gradually increasing repeat rate values and that there also be a group of sub-ranges mapped to sharply increasing repeat rate values. In other words, there must be at least four sub-ranges of force data values, with each of those sub-ranges mapped to separate repeat rate values. There is nothing in Barker that even remotely suggests such a feature.

Claim 12 recites determining if a repeat invoke delay has elapsed since the user initially pressed the held key, as well as commencing said automatic generation after the repeat invoke delay has elapsed. The office action appears to argue at page 5 that the time needed to repeat a cycle of the Barker figure 2 algorithm corresponds to the recited invoke delay. However, Barker does not teach or suggest that there is any relationship between that cycle time and the time since a key was initially pressed.

The office action rejected claims 2-4, 7 and 13 under 35 U.S.C. § 103 based on Barker. These claims also depend from claim 1, and therefore lack the above described feature of claim 1 not taught or suggested by Barker. Accordingly, claims 2-4, 7 and 13 are also allowable.

The office action rejected independent claim 14 under 35 U.S.C. § 102(b) based on Barker. Similar to claim 5, however, claim 14 recites receiving a keyboard data set reporting, for multiple keys of the plurality [of keys] pressed by a keyboard user, key force data and key identification data. Claim 14 is thus allowable for the same reason as claim 5. The office action rejected claims 15 and 16 under 35 U.S.C. § 103 based on Barker. These claims depend from claim 14, and are therefore also allowable.

The office action rejected independent claims 17-22 under 35 U.S.C. § 103 based on Barker. Claim 17 as amended recites, inter alia, receiving a registration from a first application program requesting keyboard input data and key force data, and receiving a registration from a second application program requesting keyboard input data but not requesting key force data. Barker does not teach or suggest these features. Notably, Barker does not contemplate the presence of applications that process key force data. Instead, Barker appears to assume that the operations carried out in connection with Barker figure 2 convert key force data into a format understood by all applications. Barker col. 3, lines 5-28 and 42-44 suggest that the algorithm of Barker figure 2 is performed by a microcontroller 18 within a keyboard, with that microcontroller deciding which key scan code is to be sent (by that same microcontroller) to a "system unit 24 of a computer such that the computer is instructed to perform" a corresponding function.

Barker does not describe sending the key force values to a computer, with applications within the computer then deciding how to interpret the key force values. Because of this, and because the meaning of a force value is determined within the keyboard before providing a key scan code to a computer, there is no need for an application to register and request key force data. Barker therefore fails to teach or suggest one application registering and requesting key force data and another application registering and not requesting key force data. Accordingly, and for at least this reason, claim 17 is allowable.

Claims 18-22 depend from claim 17 and are allowable for at least the same reason as claim 17, and further in view of additional features recited therein. For example, claim 21 recites storing the identifier for the last key identified as pressed, storing the most recently received force value for the last key identified as pressed, receiving a keyboard data message lacking a force value and indicating that the last key identified as pressed remains pressed, and generating a keyboard input message identifying the last key identified as pressed and containing the stored force value. Nowhere does Barker teach or suggest receiving a data message lacking a force value and indicating that the last key identified as pressed remains pressed, and then generating a keyboard input message identifying that same key (i.e., the last key identified as pressed) and containing the stored force value. Claim 22 recites receiving a simulated keyboard data message containing simulated key press data, the simulated key press data identifying an unpressed key and containing simulated key force data for the unpressed key, as well as generating a third keyboard input message identifying the unpressed key, indicating a simulated key press, and containing the simulated key force value. Barker does even hint at generating a message regarding an unpressed key that indicates a simulated key press.

The office action rejected claims 23, 27, 28, 30-34 and 36 under 35 U.S.C. § 102(b) based on Barker. The office action further rejected claims 24-26, 29, 35 and 37-44 under U.S.C. § 103 based on Barker. Claims 23 and 39 have been amended in a manner similar to claims 1 and 17. Claims 23-27 and 29-44 recite a computer-readable medium having instructions for performing methods similar to those recited by claims 1-5 and 7-22, respectively, and are allowable for the same reasons as claims 1-5 and 7-22.

It is respectfully submitted that this application is now in condition for allowance. Should the Examiner believe that anything further is desirable in order to place the application in even better form for allowance, the Examiner is respectfully invited to contact Applicants' undersigned representative at the below-listed number.

Respectfully Submitted,

By: **/H. Wayne Porter/**

H. Wayne Porter
Registration No. 42,084

BANNER & WITCOFF, LTD.
1001 G Street, N.W., 11th Floor
Washington, D.C. 20001
Office: (202) 824-3000

Dated: June 21, 2006